



Ma-Chi Chen
19721 Auburn Court
Cupertino, CA 95014

12 - 03 - 07

DAC
#8

December 2, 2002

Assistant Commissioner for Patents
Box DAC
Washington, DC 20231

Subject: Petition to Revive
Application 09/769,879
Title: Gravity Balance Frame

Dear Assistant Commissioner,

This is a petition to revive application 09/769,879 on the ground that the delay in reply was unintentional. The following are the four necessary required items as stated in your letter.

- (1) The required reply, which was sent on October 22, 2002, is attached to this cover letter.
- (2) The delay in replying was unintentional. Inadvertently, during the period after which I received the Office letter, I thought the deadline for replying was at a later date than October 19, 2002. Due to my heavy workload in the office, I did not check the Office letter mailed by your office on April 19, 2002 until Friday October 18, 2002. I then realized that it was already too late to respond in time. I began drafting a response to the letter on that day, October 18, but was not able to send it out until October 22, 2002.
- (3) I agree to any terminal disclaimer required pursuant to 37 CFR 1.137 (c).
- (4) Attached is the \$55 petition fee as required.

Thank you again for your attention regarding the petition.

Sincerely,

Ma-chi Chen

Ma-Chi Chen, Ph.D.

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#9

Ma-Chi Chen
19721 Auburn Court
Cupertino, CA 95014

October 18, 2002

U.S. Department of Commerce
Patent and Trademark Office
Washington, D.C. 20231

Organization TC 3600
Bldg/Room CPK5
Examiner: Naoko Slack

Subject: Response to Office Action
Application 09/769,879
Title: Gravity Balance Frame

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Dear Examiner:

Drawings are revised as commented.

The word "compressing" in claims 1 and 6, Line 2 is revised to "comprising".

The claims were rejected due to the relevant prior arts by ^{Imai} (1) Japanese Patent 5-91242, (2) US Patent 5845438, and (3) Japanese Patent 4-153424A. Although the prior arts (1) and (2) have similar V-shaped bracing to the present application, both are based on using damping to reduce the vibration of the building. In order to increase the damping, both require esoteric and expensive damping devices as described in Item (b), Page 2 of the application. On the contrary, the "Global Balance Frame" utilizes the gravity load to resist seismic load by using "tension-only" braces. The system is simple and reliable. Although the V-shape braces of the two quoted prior arts appear similar to the "Global Balance Frame", the theoretical bases are entirely different. In fact, V-shape bracing was used as a common building bracing type, as described in the last paragraph of "Background", Page 2. However, this conventional system utilizes the bracing itself under tension and compression to absorb seismic energy, which has only limited capacity. See also attached pages from NEHRP Handbook.

Prior art No. 3 requires a non-column space on the first-story to create large tension on the bracing under vertical load. During earthquake both braces are required to be under tension. This is a system utilizing conventional structural component to absorb seismic energy as described on Item (a), Page 1. In contrary, the "Global Balance Frame" is so designed such that under seismic load the brace on one side of certain floor will be buckled elastically under compression, while the other in tension, so that a "roly-poly man" action will be induced, and gravity energy utilized to resist seismic load. This was

described in the application in general and specifically from last paragraph on Page 6 to top of Page 7, and Fig. 6a to 6d.

In conclusion, the reasons for rejecting the claims based only on the appearance of the bracing arranged in the V-shape of Prior Arts (1) to (3) neglect the different theoretical basis for resisting seismic load as compared to our proposed system.

Sincerely

A handwritten signature in cursive script that reads "Ma-Chi Chen".

Ma-Chi Chen, Ph. D.